Anthropocentrism's fluid binary

Anthropocentrism's *fluid binary*

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Abstract

I consider myself among a band of heretics seeking to deanthropocentrise environmental education. And yet, I increasingly struggle with blanket condemnations and recommendations. I do not know if the binary is as real or useful as I once thought. In this paper, I unearth some of the ways in which alleged anthropocentrisms can be nonanthropocentric, and vice versa. They seem much more fluid to me now. My purpose is not pedantic: I think environmental educators need to be more careful in their diagnoses and prescriptions. As we grope toward sustainability, we need pedagogies that help students imagine and engage with what our various claims and conceptualisations actually *do* when believed (if indeed they do anything at all); pedagogies that develop suppleness in our capacity to modify beliefs in alignment with intentions, and that help us modify these intentions in turn. I believe confronting the instability of dualistic thinking reveals paradoxes inherent in human reason, ushering a dose of humble bafflement essential for navigating the (non)Anthropocene.

Keywords: new materialism, posthumanism, environmental education, philosophy of education, sustainability education

Introduction

Rather than asserting that anthropocentric or nonanthropocentric positions exist and debate which is more normatively acceptable for environmental education, we might instead begin to ask in what ways a given thought, belief or practice is anthropocentric *and* nonanthropocentric, and to what effect. My purpose here is to explore anthropocentrism's fluid binary through various ethical, epistemological, ontological, causal, phenomenological, and performative or pragmatic lenses. But first, a brief historical portrayal pocked with omissions, then on to the task at hand.

Anthropocentrism has been critiqued widely in environmental philosophy and ethics (Kahn 2007), which has in turn informed (and in some cases has been informed by) environmental (e.g. Bell and Russell 2000; Kahn 2010; Kopnina et al. 2018a) and sustainability education (Kopnina 2012). Well known to readers of this journal, a debate between anthropcentrism and nonanthropocentrism pit 'deep' against 'shallow' ecology, with the former intending environmental change through nurturing acknowledgement of the 'intrinsic' value of nonhuman beings and processes, and the latter settling instead on an 'instrumental' environmental ethic that has humans protect beings and resources necessary for their own needs (Naess, 1973). In this context, shallow ecology is said to be 'anthropocentric' because it places humans as the sole bearers of morally significant concern and value (e.g. Passmore 1974). Deep ecology's 'biospheric egalitarianism,' sometimes conceived as giving humans no more ethical considerability than other species, was by contrast seen to be nonanthropocentric. In another influential vein, anthropocentrism was also critiqued by ecofeminists (e.g. Plumwood, 1993), who saw anthropocentrism/biocentrism as one among many connected dualisms that worked to create and maintain hierarchies and power structures. In this sense, the split was

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seen as genealogically related to, and complicit in, other violent splits including male/female, reason/emotion, mind/matter, and white/other.

While recent debates have primarily assumed anthropocentrism is about where and how we place *value* (e.g. Payne 2010; Spannring 2017; Kopnina et al. 2018b), it is important to acknowledge that deanthropocentrising is not exclusively about value in either environmental philosophy or environmental education. Often the focus has been whether a claim is conceptuall*y* or ontologically anthropocentric (e.g. Rautio 2012; Mylius 2018). A certain notion or way of framing communication, freedom, causal potency, rationality, consciousness, or some other trait(s) can be seen as anthropocentric, with relevance for ethics (a few steps) removed. In some cases, ethical claims -even those apparently biocentric or ecocentric- are accused of being silently motivated by human centredness (e.g. Drenthen, 2011). For instance, while deep ecology is often claimed to not be anthropocentric, some wonder whether its emphasis on self-realisation really goes beyond placing humans at the centre. For example, Grey (1993) identifies a tension between the deep ecologist's problem and solution: pollution and destruction are foregrounded as non-natural processes associated with the exceptional human, but the remedy is for people to realise humans are not exceptional and are fully a part of nature. Plumwood (1993) asserts this is because deep ecology retains a "discontinuity thesis" rather than acknowledging that humans are both a part of and separate from nature. There is also the metaethical question of whether it is anthropocentric for humans to create any value system at all, even if the system of values is itself non-anthropocentric in its allegiances (see Attfield, 2011 for some discussion of this).

Is it desirable to imagine a view that has no residues of humanness? Is it possible? These are among the questions that "new materialisms" engage. As a thought experiment, let's take an extreme example. Can you imagine some wily nonanthropocentrist defending the existence of nuclear waste or the Great Pacific Garbage Patch on the grounds that such material is 'of' the world as much as anything else? Such an antagonist might claim there is no such thing as anything truly 'artificial' (because humans are never isolated causal subjects and are always co-actors in material assemblages), and that the attempt to judge one thing as good and another as bad (say ocean with or without plastic) marks the imposition of humanly derived moral criteria onto the world. We might be asked to 'go with the flow' and accept in sublime resignation the power of the self organising (or disorganising) universe, ceaselessly creating and destroying itself in a massive process we should not (and in any case, cannot) control.

Fleeting awe or fear-wrenching humility notwithstanding, dystopic sublimity is probably not the sort of nonanthropocentrism we are going for (acclerationists and dark mountainists may disagree). Rather, this abysmal asymptote gapes back at us, warning of other black holes that may also lie waiting at the edges of our eager deanthropocentrising projects. Ideas such as a Deleuzian ethics of immanent becoming; a flat ontology that rejects hierarchies in the realm of being (e.g. Bennett 2009); a commitment to removing not just normative anthropocentrism but conceptual, causal, and metaphysical ones too; a tendency to favour consideration of impersonal, postphenomenological 'affects' (e.g. Massumi 1980); and a radical doubting of any conceptual split between humans (and their artefacts), and 'nature' symbiotically creep towards the logical conclusion that there is no ethical justification against seas of plastic or skies of dioxin. Posthumanists seem to prefer theoretical dissonance to moral nihilism, because when it

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comes to the ethical implications of their ontologies, I too often see the urge to backpeddle from the edge and introduce cloaked anthropocentrisms (valuing life over nonlife, health over nonhealth, diversity over simplicity, values over nonvalues etc.). If the reader is committed to posthumanism or deanthropocentrising, I invite them to consider why they reject the sea of plastic, in what ways that rejection is founded on some value, and whether this value could possibly be void of anthropocentric residue. Rather than imply we should continue the wholesale eviction of the 'human', perhaps we ought to think more carefully about how anthropocentrism and nonanthropocentrism combine, co-occur and co-evolve in thought, feeling and action. This paper makes steps in that direction.

Hit the breaks we must, so where should we do it? One of the principle challenges of the posthuman project is to work out the extent to which we are able to let go of the human frame, *and* to what extent we need to hold onto it. The problem is somewhat subtle, however, as it is not at all clear where one frame begins and the other ends. I have been told by cynical friends that humans are catalysts to produce more plastic, itself an upcoming niche and opportunity for evolutionary development, perhaps not different from how oxygen, a toxic bi-product of cyanobacteria, became a crucial component of aerobic metabolism (Margulis and Sagan, 2000). However callous such a view is towards the plight of those facing current and future harm, one nevertheless detects an anthropocentrism even in their appeal to the values of change, growth and prospect. What is considered nonanthropocentric in one way is always anthropocentric in another, and vice versa. This unavoidability is to be accepted, dealt with, and eventually cherished. For example, the claim that valuing an ocean free of plastic is anthropocentric itself values a humanly-constructed argument that plastic is natural (itself derived from a very culturally specific definition of 'nature') over the effects this plastic might have on the biological life of the sea and those who depend on it. Unless the term 'anthropocentric' (and its apparent alternatives) is considered with more nuance, and in particular with an eye on what these concepts actually *do*, environmental educators advocating 'worldview' change are bound to continue debating at an overgeneralised and counterproductive level of abstraction.

Prefiguring the logic of this paper's plotline, Bonnett (2004), like Nietzsche (1966) before him, noted that attempts to live according to nature are invariably anthropocentric: we select certain aspects of ecological phenomena to guide action, such as beauty or stability, over say chaos and upheaval. If it is inevitable that humans anthropocentrically select what to deanthropocentrise (equally, if it is inevitable that the more-than-human world has constructed us to be anthropocentric), then the problem for environmental educators can be stated with more precision. Rather than setting out to defend one pole of a crude dichotomy, the challenge lies in identifying concrete situations given thoughts, experiences, models, practices, and pedagogical experiences foreground and background the human, how these ways interact with one another, and what effects this has on people and the planet. We are left with a series of overlapping micro-dichotomies that shift and interact, forever banished from the a priori comfort of a totalising position by which to prescribe thought or pedagogy. While this does not make practice 'easy' for educators, it does have important consequences that will be explored in the discussion section of this paper.

Welcome to the (non)anthropocene.

I would like to propose a premise which I invite the reader to dispute. I suggest that in the very attempt to choose criteria by which to initiate deanthropocentrising, anthropocentric

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criteria invariably sneak in. Like a balloon, our attempts to grasp it merely squeeze the balloon out of our palm. The desire to rid our thoughts and activities completely of anthropocentrism fails from the outset for different reasons, but most basically because it denies a 'centredness' that preceded and heralded humanness. Pre-human apes were apecentric, a nonhuman condition for the possibility of the evolution of humans. The phenomenon of centredness is itself a creative and productive mode which matter takes on, and it is incoherent to dismiss it outright in favour of, say subjectless webs and processes of becoming. Tipping the scales in favour of the latter implies choosing the artefacts of a culturally located (be it scientific or otherwise) abstraction developed through human interests, pursuits and ways of knowing the world. Phylogenetics aside, on what basis are webs or processes of *becoming* permitted to extinguish an allegedly 'folk psychology' conception of the self that may sometimes tie us into more empathetic and responsive relationships with beings in the world? But on the other hand, when does that folk psychology get in the way? How would we know?

In the subsections below, I explore several (non)anthropocentric positions that can be considered in EE practice: multicentrism and noncentrism, process oriented materialisms, anthropocentrism vs anthropomorphism, and experiential (non)anthropocentrism achieved through meditation. This list is neither thorough nor exhaustive. One purpose is to show that anthropocentrism is not one thing (there are many different kinds with different implications), nor is it stable (one can shade into another or its opposite in different circumstances), and it is not necessarily to be avoided by posthumanist environmental educators. While this dynamism may remind the reader of Derridean *difference* (1998), I do not attribute the instability of these concepts to human textuality. Instead, I assert it is the result of humans emerging and yet remaining embedded within complex webs of more-than-human causalities. Human meaning is unstable as a consequence of this originary and ongoing emplacement. Acquainting ourselves with the paradox of (non)anthropocentrism is part of accepting the way we are interconnected within the world, a nonreductive practice that deepens ecological understanding. However, if all available conceptions are in some way both anthropocentric and nonanthropocentric, we are called to ask what a given framing foregrounds and to what effect, and to draw out nascent alternative dimensions when such framings are problematic. Through accepting the fluid and productive interconnection between these modalities, educators can develop a lithe repertoire of modes of thinking that can be employed with students to dislodge sedimented thinking. I hope this interrogation can lead to more practice-oriented nuance for my own work as much as for others. May this binary be more fruitful with its fluidity released, our senses piqued to its prospects and challenges, and all our relations bettered thereby.

Multicentred approaches

There are a variety of multicentred ways of attempting to fly out of the orbit of anthropocentrism. It is helpful to consider them, in part because they foreground what is at stake when we talk about going beyond the human frame. For instance, Weston (2004) proposed a multicentric ethic to replace a human-centric one. His concern was that prominent approaches to animal and environmental ethics worked by expanding the circle of ethical consideration outwards to include other species (e.g Regan (1983) and Singer (1975)). Doing

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this, he argued, kept the human firmly at the centre, as other species' considerability was always judged in reference to people.

Weston proposed instead that other beings can and should be considered their own centres of ethical consideration. Rather than expanding our circle we should recognise other ethical circles. Is Weston's multicentrism nonanthropocentric? It depends. Weston's attempt to think multiple centres certainly seems to privilege the idea of a 'centre' for ethical consideration. Is this then its own version of expanding a circle? To be centre-centred is still a form of anthropocentrism, the argument would go. It still ascribes value on the basis of a thing's capacity to even be a centre, which was grasped as valuable through appealing to our own self-centredness (so to speak). Perhaps. If so, should it be dismissed purely on that ground?

A different form of multicentrism comes from scholars working in autopoietic and related 'enactivist' traditions (Maturana and Varela 1988; Thompson 2007). Autopoiesis is the notion that an organism constitutes itself as a unity that relates to an environment-for-it, and this self/environment interface is both the process and the product of its ongoing activity. All living beings are centres, indeed this is what distinguishes life from nonliving beings. Autopoiesis, like its Uexkullian predecessors (ex. Uexkull 2011), challenges the perceptual and cognitive anthropocentrism articulated in Kantian epistemology, which continues to manifest in various subjectivisms from phenomenology through to postmodernism. Such approaches focus on how subjectivity is humanly constituted against the unknowability of the world 'itself.' This allegedly leads to a uniquely human epistemological split between the world of appearance and the real, but forever unknowable world (or between what Kant calls phenomena and noumena). Rather than rejecting this epistemology outright, autopoietic theory argues that this split is the process and product of all living beings. All organisms constitute their own species-specific (or even individual-specific) lived experience. The world is projected outwards from each biotic vantage point, with each organism coating the world through its unique sensorimotor engagements with various modes of space, time, and ways of categorising, all conditions for the very possibility of persisting in life. A panbiotically enacted Kantianism seems to immediately suggest multicentric (non)anthropocentrisms of its own.

One difference between the autopoietic approach and the Westonian approach is that the latter is largely concerned with ethical considerations, while the former has been more concerned with ontological and epistemological issues[1]. For example, autopoiesis might interrogate how a particular being makes sense of its world, what shows up as significant for it, and how it responds to such signification. In short, what is the lived experience of this being, be it a bacterium, a begonia, a doormouse? Weston's multicentrism does not require him to engage with such a bio-phenomenology (it does not forbid him either). On the other hand, many autopoietic theorists do not seem overly concerned with examining the ethical considerations of their models (the first major experiment that launched this theory is based on removing and replacing frog's eyes (Lettvin, et al. 1959)). This seeming divorce between perspective and practice, with epistemological questions not necessarily implying ethical considerations -or vice versa- should give us pause. Both de-anthropocentrise through proposing multicentrisms. One is concerned with how things are, the other with how to best relate to those things, but neither seems to need to speak to the other.

[1] Something like multispecies ethnography (Kirksey and Helmreich, 2010) might be considered as another form of multicentric (non)anthropomorphism primarily aimed at empirical understanding

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Both likely also vary in their conception of a 'centre.' Weston may not hold so strongly to biological centres and might allow that rocks are centres in some sense.[2] (I have heard him suggest on occasion that *some* rocks were alive.) Autopoietic theory seems much more dogmatic on this point. For the latter, metabolism is a fundamental organisational difference between life and nonlife, and this difference brings with it a fundamentally different ontology. Living beings are those for whom ways of being and ways of knowing exist, and are those for whom ways of engaging matter. They are centres of concern, and what they are concerned with is directly related to their capacity to exist.

In any case, these two examples show how perspectives that seem anthropocentric on one level (in holding onto the concept of a centre) might themselves be in some fundamental way nonanthropocentric. In the case of autopoiesis, the argument might go: if it is the case that every human, like all living beings, constitutes their own being as a centre and this capacity is itself not a human production but something 'given' to humans by nonhuman processes (such as evolution and metabolism), then it is clear that to be anthropocentric is nothing more than to be autocentric, an achievement all living beings realise through autopoiesis. On the other hand, Weston's nonanthropocentrism takes seriously other being's claim for a place in the ethical landscape of the earth (and for him, no doubt, the galaxy), a power enabled by the very fact he retains his humane (or mammalian, or biotic) instinct to care for centre-like things.

The broader point, however, and one which we shall keep coming back to, is that neither category here -anthropocentric or nonanthropocentric- is stable through time. Each flip quietly into its opposite either immediately or under certain conditions. If the *temporal dimension* of living thought is absent from our educational considerations, the type of (non)anthropocentrisms we reify will not be nimble or responsive to the ongoing becoming of the world.

In my view, object oriented philosophy (e.g. Harman (2003), Bryant (2011), and Bogost (2012)), is a more recent form of multicentrism because it seeks to preserve objects as real entities. It is 'centric' because its proponents resist dissolving apparent objects into relations as is prevalent in most process-based ontologies (see below). For example, Harman (2003) opposes the undermining of things directly experienced by reducing them either to their component interactions, or to their role in larger ontologically constitutional entities such as ecologies or assemblages. This alone might seem anthropomorphic and quite likely anthropocentric to a process philosopher. However, he then forwards a worldview that collapses the subject/object dualism by asserting that Kant's phenomena/noumena distinction is present in all relations, even those between objects. Let's unpack this. For Harman (and Bryant), humans experience the things around them in certain ways, and part of this experience includes our awareness that these things are not completely disclosed to us. Harman argues all interactions between things have an analogous structure. Two celestial bodies interacting through gravitational interaction, to take a 'physical' example, respond to how each other's mass contorts spacetime[3] but not to one another's colour or smell. No object can present itself to another completely and only ever interacts with a subset of an object's attributes, according to its own nature. And so, every thing is an object not reducible to its relations. This is a much

[2] Physicists do treat them as acting as a single object with a centre of gravitation.

[3] The range of ways that two such objects interact gravitationally is described in terms of relations between variables.

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more radical pan-Kantianism than the autopoietic extension of transcendentalism to the living. All objects interact with each other's appearances (phenomena) and no interactions access another object's thing-in-itself (noumena). This position is radically nonanthropocentric in the sense that it undercuts the human as the alleged constitutor of the subject/object separation and the corresponding epistemological phenomena/noumena distinction. This is important because it posits continuity between 'knowing' and 'interacting.' But for this very reason it is also anthropocentric by ontologising and universalising an epistemological dualism grounded in human experience.

Harman escapes the anthropocentrism implicit in relational becoming such as we might find in modern science, Whitehead (1929), Latour (1993), and process oriented new materialists. But he anthropocentrises the cosmos in the opposite way. He asserts that things are more real than relations, and universalises a dualism gleaned through the structure of his own (human) experience -the appearance/reality distinction. Instead of denying the subject/object dualism he seeks to make it a special case of an object/object dualism, but the model of how the object/object dualism works was derived from his having subject/object dualism as a mental scheme, and using it as an analogue source to develop his alternative ontology. Again, the point is not that this is 'bad' simply because the ontology was born of and resides within a larger human frame. It is instead to indicate how paradoxical and unstable are the various forms of trying to go posthuman.

What about things that are *kind-of*-centres? Biology gives us many examples of various degrees of tightness, loosening but not eliminating the notion of a centre. From plants, somewhere between the interconnection of a central-nervous-system-endowed animal (such as Darwin's root-brain hypothesis (Baluska et al, 2009)) and a confederacy of parts (the strong modular claim made by Firn, 2004), to slime moulds that spend parts of their lives as single-celled organisms and other parts in multicellularity, we are shown that being a centre is not always 'one' thing. While it may seem a paradox to a tightly centred being, some centres are less centralised than others. At the same time, the fact that our body is made up of germline cells and other microbial cells, each a centre of its own, but congregate into another -me or you- suggests centres within centres, each presumably different kinds of centres in turn. Is a virus a centre? On organ? What about a biome? What does it mean to be multicentric in a world where it is not always even necessarily clear whether or not something really is a centre? Do interactions in the process of becoming more centralised deserve more consideration than those where relations are dissociating? If there is a birth and death of centredness, how do we respond?

As one ponders such questions, it is difficult to ignore the power of empirical observation in engaging the human mind in more complex de-centring than can be accomplished solely through thought alone. The concept of a centre emerged from, is challenged by, and grows through events in experience. Close observation of the world (of any phenomenon within it) can show us and affect us with its different ways, fertilise our imaginations, and is therefore always (in part) a decentring. Through witnessing kind-of-centres, we decentre our very notion of centredness. Scholars produce different kinds of (non)anthropocentrisms depending on if and how they engage the empirical world. If our sense of a centre is continually informed by our embodied experience as tightly organised autopoietic entities, the encounter of those with

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different levels or modes of centring offers us the opportunity to stretch this conception. Without a tightly centralised mammalian body we might never have encountered a less tightly centralised slime mould as such. The point is to examine the various ways in which centres do and do not exist through our own centredness, how they come into and out of existence, how they interact together and with us, and to what effect.

But surely there are many 'things' not centred in *any* way. What of their ethical or ontological standing?

Science and process-centred approaches

With some important exceptions, the broad trend in Western science, from the Copernican revolution, to the theory of evolution, the discovery of DNA, the revelation of the massive expanses of the cosmos -from superclusters down to subatomic particles-, has been another kind of vast deanthropocentrising. The broad trajectory has been to diminish the importance of humans in the cosmos, by stripping the soul, denying the power of consciousness, ridiculing the notion that anything (even ourselves) was made for a purpose, and casting us into some random corner of an enormous universe chugging towards entropic heat death[4]. When looked at from an atomic or energetic level all things appear to be in the process of change, all mesophysical objects (including life and love and death) but tricks of consciousness reminding us of our bodily disconnect from the actual becomingness of the ‘real’ world. However, whether or not such de-anthropocentrisms re-anthropocentrise is a complex and shifty question. Again, the answers depend in part on what these various 'truths' do when entertained, believed, or transformed into action.

On the one hand, much of the classic scientific project, whether conceiving the world in terms of process and becoming, of mechanisms or atomic interactions, as material flows and webs, or in any other 'reduced' way (i.e. the set of activities Harman (2013) calls 'undermining'), obviously de-centres what we think of as human (and along with it, other organisms). Our struggles and dramas, thoughts and dreams, the sounds and smells that fill our sensory lives - each is relegated to epiphenomenon. Scientific discoveries have therefore been critiqued by some environmentalists for their implicit undercutting of the primacy and truth of 'lived experience.' Abram (1996) argues that scientific truths pull us away from our senses, which uniquely afford experience of things 'more-than-human.' It seems Abram wants to erect a dichotomy between conceptual and sensory decentring while favouring the latter[5]. However, because a concept-based decentring is made possible through the embodied emplacement of a person in their immediate lived experience (a phenomenological centredness), these seemingly opposed terms layer one upon the other in interesting but complex ways. Hence scientific decentring is sometimes accused of decentring a more significant decentring! (Sorry, I tried to erase that line but couldn’t bring myself to it).

However a world without centres is still somewhat human centred. First of all, such an ontology devalues the centring projects of countless other beings (i.e. approaches such as

[4] It is of course relevant to environmental educators that these discoveries remain abstract and in tension with a simultaneous counteractive trajectory. Demographic shifts mean humans are increasingly living in technologised spaces and cities that present themselves phenomenologically as generally human centric.
[5] I question the sharpness of this dichotomy elsewhere. See Affifi 2016a.

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those of Weston and the enactivists above) in deference to an abstract metaphysical position. On the other hand, scientifically informed decentring is possible in large part because of our conceptual and perceptual organisation in the first place (a point emphasised repeatedly since Husserl (1954)), and the various tools and techniques we have developed to encounter the world for specific human purposes. However detached it might seem, it is grounded in and always comes back to the living, feeling, sensing body. That is, it comes back to our corporeal centredness.

Scientific development was crucial for the rise of contemporary process philosophy even if many process philosophers are dissatisfied with scientific ontology. Atomic theory, evolution, relativity, quantum mechanics, and chaos and complexity theory have all featured as prominent muses in the development of process based ontologies (this is as true for early process philosophers such as Whitehead 1929, Peirce (Houser and Kloesel 1992), Dewey 1925, or Bergson 1946, as it is for contemporary ones like DeLanda (2002), Latour (1993), Prigogine and Stengers (1984), Barad 2007; Dupré 2012, and Deleuze (see Villani 1991)). In various ways, each underemphasises the reality of beings (nouns) and lifts that becomings (verbs). This tendency continues in Deleuze-inspired 'new materialisms' in environmental education today (e.g. Clarke and McPhie 2014).

While some might argue that becoming-centredness is 'truer' and that there persists somewhere some indigenous group that wisely does not 'noun' the world, an examination of lived experience questions this idea. While the piece of paper on my desk is in a slow process of transformation, --verbing an ongoing represencing and perishing event-- it does not appear as such in unreflected upon experience. It is only through considering the paper through various lenses serviced by my prior knowledge (say about the nature of decay, or my understanding that the atoms inside it are continuously in motion reconstituting it as paper at each passing moment), that I can purge my naive phenomenological take on it and see it anew. Yes, the paper is continuously shifting in hue as the clouds float over the sun intermittently. But it appears as paper continuously changing in colour. No wonder that such nounless cultures have not been found to exist. It is arguable whether or not a deanthropocentrising project can be founded on the basis of the capacity to undermine direct experience through the careful injection of processy conceptualisations. It seems fairer to say that all sorts of things appear as nouns if their rate of change is slow enough that they behave consistently for the duration of the interaction. Different people, cultures, and contexts may elicit varied sensitivity to such rates of change without shaking off the dialectical interpenetration of constancy and change. This would seem to apply to other organisms too, who rely on consistency in their own *Umwelten* (as many animal studies on Piagetian object constancy suggest (see Reznikova, 2007, pp. 132-139)). Of course, it could be argued that this conceptualisation is itself anthropocentric too, and so it is. But it is a more-than-anthropocentric anthropocentrism, as it acknowledges a type of distortion that occurs pervasively throughout the biosphere. And it is an anthropocentrism supported by more-than-human evolutionary processes that simply do not allow plants, animals, people or languages to dice up the world any way they please. Living in the world restricts how things can be interpreted (while collaborating in those interpretations as well). Some of these may be false on a broader spatiotemporal scale, but true, and necessarily true for lived (or let’s say, liveable) experience.

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Some process-oriented new materialisms (e.g. DeLanda 2003; Barad 2007) assert that human thinking is born of constellations of interacting processes, foregrounding something more-than-human in their birth, persistence, or decay. But of course, achieving this realisation slips the human with its epistemologically supreme vantage point, back on stage. This is clear when we take note of the particular manner of some (often DeLandian) new materialist frontal attacks upon postmodernism (a project I heartily endorse). By firmly rejecting the notion that language is divorced from the world and limitless in its power to diversely represent 'reality', such new materialisms assert that the world is in fact in some way knowable -it really does bump up against us, interact and intra-act with us.[6] But one arrogance led to another. A seemingly humble agnosticism about our capacity to know the noumenal world morphs into a hubristic vision; the epistemological subject erecting at each moment the entire universe (as phenomenon) is now replaced by the equally incredible idea that we can actually know the world itself. We can glean the workings of the world that gave rise to the very distinction between subjects and objects. The workings are sufficiently human that they can be described in words and presented in arguments.

Barad's concept of 'agential cut' also illustrates the fluid nature of process-oriented (non)anthropocentric thinking. According to Barad, subject-object distinctions are enacted in what she calls 'cuts.' However, unlike various humanists, for her they are not enacted by a subject, but by the broader material arrangement of which the 'subject' and 'object' are consequences before they are causes (p. 175-180). Barad introduces a posthuman perspective, but she can never escape the fact that this very conception of materiality was itself dependent on her human perspective (subjectivity). It is unlikely that a cat would conceive the rise of the subject-object cut as Barad does. Like Bennett and DeLanda, Barad's ontology therefore is and isn't anthropocentric. It is anthropocentric in the sense that it is produced by the very same assemblages as those ontologies she critiques: a human body, human reasoning, imagination, and language[7]. But it is not anthropocentric in that the condition she conceives for the possibility of such human situatedness lies in broader material dynamics.

Some readers will detect that Barad is vulnerable to a criticism levelled at Kant centuries ago. Kant (2007), for his part, was also interested in the conditions for the possibility for things like subjectivity (which he called experience). This is where he developed his infamous transcendental arguments. He showed that space, time, causality, being, becoming, and a handful of other categories are not necessarily in the world itself. They are merely the necessary ways in which we must perceive and conceive things in experience. However, Kant depends on

[6] I use the word intra-act with caution. Barad (2007) created this term but appears to use it in different ways. In one use (that I am sympathetic of), she contrasts it to interaction, in a way that is similar to Dewey and Bentley's (1949) discussion of the difference between interaction and transaction. In transactions, the knower and the known are seen as aspects of a total situation rather than separate entities. A major difference seems to be that Barad wants to insist that all relationships are intra-active, whereas Dewey and Bentley assert that different phenomena can be seen to relate in different ways, and not all are transactive. I am more suspicious of a second use of the word intra-act by Barad, where she wants to extend a nonlinear temporal interpretation of quantum events at the electron level to the world writ large. I do not yet see how entanglement between the past and future, which she describes in quantum events, is needed for the sort of co-constitutive relationality most commonly associated with her term.

[7] Moreover, the genesis of those ontologies she finds unsatisfying owe their existence to the same more-than-human entanglements that she asserts have given rise to her own views.

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these categories to describe this very position. In so doing, he imports apparently human ways of constituting appearances into the logical structure that underlies the emergence of these aspects of human subjectivity in the first place. How the world itself (which may or may not exist as it is not necessarily 'being' or 'becoming') gives rise to such a subject (given it may or may not operate causally) is quite a mystery. When Barad employs human conceptual structures to posit the causal origin of these very tools, she participates in an analogous Janus-faced transcendental argument.

The paradox is clearest when she goes normative. She calls for an ethics of responsibility that 'we' are supposed to adopt in response to this ontology, even though 'we' are co-constituted and entangled, not isolated moral agents: "[w]e have to meet the universe halfway, to move toward what may come to be in ways that are accountable for our part in the world's differential becoming" (353). There is something strange about this sentence. According to Barad's argument, of course we 'have to' meet the universe halfway because that is how we emerged in the universe in the first place. Why make an ethical commandment about something that one cannot not do? Why amend a posthumanist position with an ethical addendum that repositions the human as agent? The answer, I think, is that it is inevitable that an ethical person will humanise an ontological position that otherwise leads to destructive attitudes. Her origin story was insufficiently humane for her sensibilities.

Though very different thinkers, processy Barad and beingish Harman both seek to represent the nonrepresentational. When they do this, they invariably claim a congruence between their ways of conceptualising and the world itself, even if their conceptualisations deny any such allegiance. At root in any realism is the anthropocentric conviction that we are sufficiently similar to the world that our ways of thinking, observing, learning, and understanding are not wholly divorced from the universe that birthed us. Anthropocentric indeed, but an anthropocentrism that (not unlike deep ecology) brings with it a sort of identity relation however imperfect, and the humility that humans are created by the universe and are in complex ways in its image. My conviction is that this is to be embraced rather than avoided in environmental education (Affifi 2019).

Meditation and experiential decentring

Casting an eye upon the dynamics of the inner world, meditation is another way of decentring the human. In this case, it focuses and troubles the assumptions that come with being a self, -a seemingly unified, separate, and self-directing agent. For instance, meditation heightens awareness that thoughts and feelings are happening of their own accord. The self is challenged as a certain kind of causal centre (Affifi, 2016a). It is increasingly experienced not as an ongoing source of causal power independent of the material universe but as instead wrapped into a multitude of interacting processes. The meditator experiences causality as the property of networks of changing interactions. This web of co-dependence leads to a pluralistic conception of the arising of any phenomena, but most especially that of the 'self,' a process known in Buddhism Pratītyasamutpāda[8] and commonly translating as 'dependent origination.'

[8] This word has a complex and evolving history. For some insight into the discussion of its meanings and uses in Buddhist practice, see Bucknell, 1999; Shulman 2007.

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Nevertheless, during meditation one *does* experience this multitude at some sort of centre. We conceptualise that 'thinking is happening' through an entangled web of sparks and connectivities as the (now *so-called*) inner and outer world reflect and ripple upon one another. This is a deanthropocentrising experience as it challenges the notion 'I think' -that a subject can be the one actively *doing* thinking- and replaces it with the experience that thinking is an ongoing relational process between various things in experience that 'I' do not really have control over. While there may be some discussion over whether all cultures and languages conceive of the relation between subjects and verbs in this way, it is clear that such a causal presumption is core to the type of experience asserted in English speaking people (and other similarly structured languages) and their associated conceptions of what humans therefore are. Such insights deeply trouble the Cartesian separation between the res cogito and the res extensa. In that sense, this might appear a very useful tool in a deanthropocentriser's toolbox. But this is where the now familiar paradox comes in: in order to 'have' the experience that thinking is happening in spite of us, this diverse flux of events needs to be held in some sort of unity. The dissolution of the ego requires an ego to experience it. We *think* that 'thinking is happening,' jump above it for a moment, and centrally organise this diverse manifold of events through the vantage point of a metalevel. While this metalevel immediately slips from our grasp, and dissolves into its own ongoing flux of thinking, a new totalising vantage point can and is routinely achieved. This relationship becomes more clearly experienced when we try to meditate because thinking itself becomes the thing we pay attention to rather than, say traffic, excel sheets, or Netflix. We turn and look at the looking instead of taking it for granted.

Meditation thereby reveals with particular empirical vigour the same unstable flux discussed elsewhere in this article, and proves an important practice for more deeply understanding the relationship between anthropocentrism and nonanthropocentrism (as well as many other dualisms). One important advantage it offers is that it allows people to experience directly how seeming oppositions depend upon, and transform into one another. It is not merely a conceptual scheme derived from another conceptual scheme, in a regress of playful, yet disembodied thought games. Alongside its many benefits, it provides us with ever more clear awareness of what is going on, and is therefore an important way to become a better phenomenologist (where 'essential structures' of experience is taken very loosely).

'Experience' and 'representation' are things that matter does when organised into certain types of bodies and social relationships. The antiphenomenological strain of new materialism (imbued in many interpretations of Deleuze and Guattari, but exemplified most specifically in the work of Brassier (2007)) is itself anthropocentric when it fails to accept that "experience" in its diverse forms is a product and process of materiality. Experience, and with it knowledge and representation, is only the synthesis of a Kantian subject if considered in isolation. But, as Barad suggests this very subject is the product of much broader complex spatiotemporal processes that give rise to it (and to which it eventually contributes). This means that while fallible, knowledge is not random or to be arbitrarily constructed at the whim of whoever holds power, and is rather of the world. (Of course, this does not mean we should not be critical of such knowledge. The world is up to some terrible things, and implicating us deeply in it). Collapsing materiality into that which can be third-person observed overemphasises one aspect of how matter creatively reconfigures itself through time. By rejecting phenomenology, some new materialists are implicitly betraying their anthropocentric Kantian framing of the origin and nature

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of subjectivity[9]. As educators, we need to be careful of blanket condemnations. Whether or not phenomenology is anthropocentric depends on many moving factors.

Anthropocentrism and anthropomorphism

Many observe (Plumwood 2009; Bennett 2009; Affifi 2011) that anthropomorphism and anthropocentrism can sometimes be a converse relationship. The methodological dogma common to much of science -thou shall not anthropomorphise- often leads to anthropocentric perspectives, ethics and behaviour. The idea is that the refusal to use one's own experience to try and imagine the experience of another cuts off possibilities for empathy, understanding, and relationship. In Affifi (2014), I argued one should distinguish naive anthropomorphism from a more nuanced sort of anthropomorphism. Naive anthropomorphism assumes other creatures are identical to humans and thereby shuts off our capacity to acknowledge and respect their differences. A more engaged form of anthropomorphism participates in *relationship*: by assuming the other being is in some ways similar to us but also in some ways different, we can engage in interacting and understanding it, and be open to the fact that our ongoing conceptions of what the organism 'is' can serve as entry points into relationship but are necessarily temporary (Affifi 2014b). In this sense, there is a similarity between understanding other organisms and understanding other people, because we also continuously think we 'know' the other person but if the relationship is truly growthful this knowing is capable of allowing the other to jut through conceptions we had of them. In essence, knowing and coming to not know are in an ongoing dialectical relationship with one another through time.

That said, anthropomorphism *does* have a dimension of anthropocentrism to it. Each time we think we know what another being is, we assume that our model (consonant with our demands for particular forms of empirical corroboration, logic, coherence, etc.) is capable of representing another being. We centre our model and decentre how the other being violates it. Any anthropomorphism that does not open up its own representations to possible rupture by otherness is locked in such a conceptual anthropocentrism. However, we see that anthropomorphism and anthropocentrism can be dialectically entwined (and therefore so are anthropomorphism and nonanthropocentrism) through the way they tack back and forth through time. The rupture of the model is the thrusting of otherness into our schemes, made possible by the schemes themselves but transforming them in turn (see Affifi 2019, 2020). We could call this anthropomorphism's *Gadamerian* (1975) dimension, in acknowledgement of his working

[9] Part of the problem is terminology. Many new materialists are committed to the term 'material' despite what I see as its problematic associations, while critical of associations that other suitable (or overlapping) terms might have. New 'materialist,' as the name suggests, emphasises matter and not mind. Even if some new materialists thereafter insist that 'everything' is matter is a broad term that includes thoughts and feelings, they are swimming against a current they themselves have created. Calling this domain of thought 'new naturalism' instead would avoid this problem (in the sense that any 'adequate naturalism must be able to account for all domains of being, including the transcendental' Grant (2011, p. 4), a point that the American pragmatists were also well aware of (as was Deleuze (2004) in what I understand to be the relationship between actualisation and counter-actualisation)). The cost, of course, is putting a foot on one side of the scales of another binary (natural/artefactual, etc.). Following scholars like Butler (2011), talk of nature and naturalism is itself deemed anthropocentric and is now (unfortunately, in my mind) avoided by many new materialists (Morton 2009; though see McPhie and Clarke (this issue) for some important taxonomical work into our modes of thinking/rethinking 'nature').

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through the constraints and possibilities of 'prejudice'). For Gadamer, prejudices are inevitable for making meaning, given we are historical beings with a stock of prior knowledge front-loading the structure of possible experience. A prejudice, however is a virtue in disguise. Without such fore-structures we would be unable to enter into any relationships as we would not have any context that the otherness we encounter can modulate or transform. Anthropomorphism, in the same vein leads to anthropocentrism when it closes people to otherness but to nonathropocentrism when it invites schematic rupture. However, in these dialectical dynamics the disorder wrought by otherness is subsequently re-organised into a new scheme indicating otherness is unstable. We seal the fray. This suggests a general caution about the scope and possibility of deanthropocentrising.'Who' is making the agential cut (Barad, 2007), and who is cutting the cut is not clearcut.

A new empiricism should recognise that the ongoing interaction between a person (or any organism for that matter) and its environment leads inevitably to an unfolding co-constitution. Through ongoing relationship with a magpie I become magpiemorphised as I begin to consider and interact with myself through ideas, analogies, patterns of action and interaction, and feelings garnered from or generated through time spent with the magpie. In a more concrete sense, magpiemorphisation influences not merely my mental self but a more integrated self (that my mind arises from and contributes to): my thoughts and feelings magpieify as they emerge within embodied action that is itself inflected by this curious, hopping bird. When considering this embodied and enacted context, we see that I interact with a magpie that is already interacting in a way that was affected by my prior interaction with it. This infinite regress is not a fatuous philosophical abstraction but a very real dimension of the feedback nature of any interaction (see Affifi 2014b for exploration of some of these consequences). It is *not* true that I 'become' magpie, nor that the magpie 'becomes' me; we each become ourselves but in a way that now incorporates the ongoing co-evolution of self and other, the openness to alterity and the transformations that occur. A new empiricism asserts and relies on the notion that neither our anthropocentrisms nor our anthropomorphisms are static. Rather, they are both continuously reshaped by our experiences with others in our world. When treated as generic concepts devoid of a contextual and temporally unfolding life, these concepts can be played around with, and subjected to various rebellions or conformations to logic. But this necessarily divorces them from the developmental nature of the world and in so doing reifies the rationalistic approach that remains (notwithstanding itself) the dominant undercurrent in philosophy. As Connelly (2010) puts it 'participation in a world of becoming teaches modesty about the powers of argument even while appreciating its pertinence' (10).

With a predominant focus on deanthropocentrising the human, there is the risk that we persist in anthropocentrising *our focus* despite (or rather because of) our efforts. In other words, it is not sufficient merely to focus on the human as a subject to be deanthropocentrised. We must devote ourselves to developing the sensitivities and capacities to understand, theorise and learn deeply from the rest of the universe beyond the deanthroposised anthropos. Our work is 'environmental education,' which (should) by definition involve a world of myriad creatures, beings, and processes. The logocentric obsessions inherited from postmodernism have taken environmental education theory and practice away from its traditionally sustained engagement with the nonhuman world and have explicitly or implicitly associated any such engagement with some sort of naive or corrupted scientism. New materialism could restore such an engagement

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with the diverse world, sharing and honouring the delight of both kinship and otherness, but without the conceits of earlier epistemologies that assert uncontroversial access to the world for the deified western subject (see Affifi 2019, 2020). But to do this, it needs to get beyond articulating what humans are and are not in generic ontological terms, and pay attention to the processes and transformations of the actual world. We should not be coy about taking science back. Environmental educators are perfectly situated to explore and experiment in this reconstruction.

Discussion

Why highlight anthropocentrism's fluid binary? Certainly not to enable business as usual through some new relativism! Without question, I too am sickened by activities my colleagues diagnose as "anthropocentric." I agree that many humans need to spend more time paying attention to other beings and have invested time reconstructing education theory and practice accordingly (e.g. Affifi 2015, 2016b). I am not aiming to shallow ecology, but to deepen it ever further by drawing attention to the extent of nature's interconnectedness. Any conception is anthropocentric insofar as it is framed by the human mind and heart, but equally nonanthropocentric because all human activity emerges from and persist within a vast field of beings and processes. The dialectic at the heart of this paper, that all anthropocentrisms are nonanthropocentric and vice versa, ultimately owes itself to an existential paradox: we are aware that we are, as Plumwood (1993) noted, *both separate from and interconnected with the world*. This is not just a language game, it is a fundamental binary manifest in all beings. The essence of "being" is the emergence of an entity sufficiently individuated from the flux to persist, but whose persistence depends wholly on that flux. There is a centralisation inherent in being, as much in flames and stones and ideas as paramecia and apes. Ultimately, the most profound nonanthropocentrisms are not those that deny centrism, but that recognise its unavoidability, work with its strengths, and are vigilant against it leading us astray. We cannot allow anthropocentrism to colonise noncentrism or vice versa, because both aspects exist. Wise decisions come from struggling with this paradox rather than concocting a metaphysics that collapses it, one side or the other.

Some questions we must continuously try to ask: what does a given deanthropocentrism do? Does it actually lead us to attend to the field of more-than-human presences around us? Does it invite us to relate to the birch trees and magpies around us, and to recreate our environments to enable such relationships? Does it actually compel us to stand in front of the bulldozers? Does it create beauty? Or, despite its claim to radical nonhumanness, does it instead merely invite us into more arguments, more time in front of computers, and more wandering around stuffy conference rooms? In the pragmatist tradition, Weston (1991) for example recognises that thoughts and environmental contexts are entertwined in an ecology. This means it does not make sense to focus on fixing the worldview without fixing the world. An abstracted deanthropocentrism easily parcels itself off and operate merely in a realm of discourse games without changing any actual (de)anthropocentrised relations. On the other hand, some physical intervention (say building a bat house) might be done for human reasons (e.g. we want bats around so we have less mosquitos), but inadvertently deanthropocentrise our thinking and feelings by acquainting us with the styles and personalities of bats, perhaps inviting us to consider what it might be like to be a bat (without Nagel (1974) coming first) in order to

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help it flourish. In other words, the direction a given (de)anthropocentrising manoeuvre is heading is often more relevant than its intention.

Ways of framing transcend themselves, not merely reproducing particular modalities of thinking, feeling and acting but also opening up new fields of possibility. We can deanthropocentrise towards biocentrism, towards ecocentrism (Callicott 1989), towards multiple centres (Weston 2004), or towards a complete lack of centre (which thereby creates its own process or material oriented centrism (Deleuze and Guattari, 1972)). But each unfolds unexpectedly as well, giving rise to new mental and material events with their own unexpected trajectories in turn. This dynamic, which Kauffman describes as the movement into the “adjacent possible” (Kauffman 2000; Hoffmeyer 2004), pervades the universe, within and without. This is what we need to commit to painstakingly observing and engaging, through discussions and experiments, actively with students and in the context of real, lived encounters. Asking such questions is performative, even and especially when no definitive answers can be found. We are thrown into complex ecologies that change amidst our very attempts to understand them. Asking what a given belief does is more about opening a stance towards the world that fosters virtues necessary for reorienting ourselves within our ecologies, such as “ecological humility” (Kopnina et al 2018a). Ecological humility is not just a cultivation of epistemological uncertainty and openness before the ecosystems “outside” [sic] us. It is work holistic work that recognises our beliefs and ontologies emerge from, separate from and reunite with, and feedback into the very ecologies that call us to pause. To paraphrase Bateson (1979), the biosphere is a mental ecology that contains the human mind.

The question of where a given conception leads relates directly to another point already suggested in the introduction. Many attempts at nonanthropocentrism are not actually possible to live. For example, the idea that we treat all living organisms as equal centres of value (for example, Taylor’s 'biospheric egalitarianism' (1986) or Lupinacci and Harpel-Parkin’s “nonanthropocentrism” (2016) can really only be briefly entertained conceptually and affectively. Within hours, the would-be egalitarian *will* value themselves over some other to acquire nutrients and calories. Indeed, they will need these calories to fuel their arguments, implicitly valuing the ends they hope their arguments will achieve over the particular life forms sacrificed to produce them. But this does not necessarily mean that 'impossible nonanthropocentrisms' are without value. They may still serve to guide action, to push people to be ever more compassionate or sensitive to their local and systemic impacts on the world. Let’s call them *strategic nonanthropocentrisms* (in the vein of Spivak’s (1990) 'strategic essentialism' and Bennett’s (2009) 'strategic anthropomorphism'). In other words, nonanthropocentrisms may still function as ideals regulating action (the pragmatic notion of a regulative ideal comes from Kant’s third critique (1790)). Of course, in keeping with the observations of this paper, holding such an ideal -or 'end in view' to use Dewey’s (1922) term- as a way of directing action is itself a very human thing to do and valuing this particular way of teleologically investing behaviour with a future is therefore another form of anthropocentrism.

Similarly, some attempts at nonanthropocentrism are at best experienced or practiced only *sometimes*. As such, it is crucial that educators consider critically whether they actually have the potential to carry over into people’s otherwise anthropocentric lives. For example, the experience of ‘self realisation’ characterised by deep ecology can be an aesthetic oneness or a deep universal empathy, but these states are not sustained. Educating for sustainability does

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not suggest we make some fleeting ontological experience universal but that we move beyond the tendency to search for a particular 'ism' that, if adopted, would carry us to salvation (for this reason, the important critiques of Kopnina (e.g. 2012) are incomplete). It is an empirical question (to be settled through self-reflection and through observing others), whether deep ecology or any other ecstatic and temporary experience has the capacity to modify actions when people are back to their nondeep daily encounters, and if so whether it does so any better than some alternate conception or experience. It is my suspicion that we need to move towards a more flexible and pluralistic notion of what frameworks, experiences, and emotions are 'needed,' and to develop the general capacity to become more aware of when and how our various ways of looking at the world are motivating or demotivating to us and to others. Sustainability education might be a contemplative practice (see Eaton et al. 2017) before it is a set of (metaphysical, ethical, or scientific) propositions to be accepted and transformed into action.

And still, I suspect some apparent nonanthropocentrisms are best taken in the smallest of dosages, if at all.

That ‘taking action’ is itself obviously anthropocentric (Taylor 2017), grounded as it is on the idea that we transform the world according to our own values, reveals another variation of the theme suffusing this article. Recognising anthropocentrism’s fluid binary does not imply we put anthropocentrism and attempts to transcend it on equal footing (Wals and Jickling 2002). Anthropocentrism is an urgent problem. But nonanthropocentrism is an insufficiently ecological solution. We can take action to seek (non)anthropocentric values committed to biotic flourishing. This, to me, is the crucial issue. How do we help learners become more versatile at abandoning and restructuring the stock of approaches they deploy when their repertoire does not actually participate in the flourishing of people and the earth? Rather than seek to overcome anthropocentrism itself, we can inspire students in the arts of contemplation, guiding them in better observing, listening, reflecting upon, and experimenting with their various (non)anthropocentrisms in theory, in feeling, and in practice.

This foray into anthropocentrism’s fluid binary is intended to illustrate the importance of philosophy for environmental education. I hope the reader will see this potency even if (or especially when) my particular arguments fail. It is easy to lock into beliefs that we think are 'part of the solution', and it is a normal to be less critical of those beliefs than those which contradict them. In a complex and ever-evolving world, sustainability would seem to require the capacity to *unsustain* habitual patterns of thought that are no longer helpful for understanding or engaging (sustain/unsustain: another fluid binary?). It is not sufficient to merely develop 'critical thinking' skills, as these often merely sharpen one’s saber blade while keeping it pointed at illusory enemies. The exciting sense of wonder that comes through breaking down one’s own cherished assumptions is an experience few people know how to embrace. Uncertainty is insecurity. These are fears the typical classroom culture is committed to continue quietly stoking. A flexible and responsive attention to any complex theoretical/material sustainability issue will require a completely reimagined pedagogy, one that delights in baffling journeys and the humility such journeys may bring. Revealing the instability and paradoxes inherent in (non)human reasoning is a part of this project.

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